(NASA-CR-134316) SEMIANNUAL FORECAST FOR GOVERNMENT FURNISHED MATERIALS

N74-28222

PRESSURANTS/PROPELLANTS FOR SPACE SHUTTLE

ORBITER (Rockwell International Corp., Downey, Calif.) -46 p HC \$5.50 CSCL 211

Unclas 42847

G3/27

SD74-SH-0125

SEMI-ANNUAL FORECAST FOR GOVERNMENT FURNISHED MATERIALS PRESSURANTS/PROPELLANTS FOR SPACE SHUTTLE ORBITER PROGRAM

26 April 1974

CONTRACT NAS9-14000

W.B.S. 1.1.5

IRD LS-123T





## **SD74-**SH-0125

SEMI-ANNUAL FORECAST FOR
GOVERNMENT FURNISHED MATERIALS
PRESSURANTS/PROPELLANTS
FOR
SPACE SHUTTLE ORBITER PROGRAM

26 April 1974

CONTRACT NAS9-14000

W.B.S. 1.1.5

IRD LS-123T

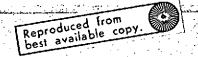


## CONTENTS

DESCRIPTION	PAGE
AMMONIA	1
FREON	2, 2A
HELIUM, GASEOUS	3 thru 9
HYDRAZINE, N <sub>2</sub> H <sub>14</sub>	10
HYDROGEN, GASEOUS	11 and 12
HYROGEN, LIQUID	13, 13a, 13b, 13c
MONOMETHYL HYDRAZINE	14, 15, 16
MITROGEN, GASEOUS	17 thru 21
NITROGEN, LIQUID	22 thru 27
OXYGEN, GASEOUS	28 and 29
OXYGEN, LIQUID	30, 31, 32
TETROXIDE, HITROGEN	33 and 34
WATER, COOLANT	35
WATER, POTABLE	36

## INTRODUCTION

This report is a semi-annual forecast of Government Furnished Pressurants and Propellant and GFM required at Space Division Test Sites, sub-contractor sites, or Government sites to support the development, fabrication, production, and test of the Space Shuttle Orbiter. Any significant changes in this forecast will be coordinated with NASA/JSC Representatives. This forecast submittal is in accordance with the Space Shuttle Integration Contractor's information requirements document SD72-SH-0090, IRD LS-123T.



. AEPORT		(See Instructions of		REMENTS		te prepare 19-74	Approval Expire	u.No. 104-R624 s March 31, 1960	
	REPORTING ACTIVITY (Enter complete name and destination shipping address)					EPORT:NO	PERIOD (Month	and year,	
	ll Intern Division	ational			FROM	1974	το	1977	
12214 Lakewood Blvd.  Downey, Caif. 90241  5. STOCK NO. AND NOMENCLATURE OF ITEM.  6. METHOD OF SHIPM					4. UN	4. UNIT OF MEASUREMENT (Tons, lbs., cubic feet, bottles, callons, stc.) Pounds			
LUOWNEY 5. STOCK!	NO. AND NOME	ENCLATURE OF IT	EM.	6. METHOD OF SH	HIPMENT	7. STORAC	E AVAILABILITY	T DESTINATION	
	Ammonia  FED-STD-O-A-1445a  (Check both, if appli					1	nown	,	
8. 9.	· .	10.	CONT	RACT NO., PRO	GRAM, O	R PROJEC	TTITLE	<b>***</b>	
YEAR	HONTH/	Eclss Testing							
	QUARTER	10001110							
	÷	Downey						·	
1974	<u>i</u>	i							
	3								
3075	14								
1975	<u></u>								
	3								
1976	<u>4</u>	200							
	2	200							
	3								
1977	1					÷.,,,		<u>.</u>	
	<u>2</u>					,			
_	4								
1978	<u>l</u>					<u>, 1</u>			
	3							<u> </u>	
-		:				* * * * * * * * * * * * * * * * * * * *		<u> </u>	
. [									
-									
F								,	
	· · · · · · · · · · · · · · · · · · ·								
								1	

FORECAST OF PROPELLANT REQUIREMENTS (See Instructions on reverse.)					1. DATE PREPARED Budget Bureau No. 104-R024 4-19-74 Approval Expires Mar 3. 31, 1966  3. REPORTING PERIOD (Month and year)				
2. REPO	RTING ACTIVITY	(Enter complete nam	ne and destination s	hipping address)		ORTING	PERI	OD (Month	and year,
	well Inter							1977	
	ce Division L4 Lakewood				4. UNIT O	F MEASL	REMEN	T (Tons, lb.	s., cubic feet,
Down	rev. Calif.	90241				gallons,		Pounds	
5. STOC	K NO. AND NOME	90241 NCLATURE OF ITE	М 6.	METHOD OF SHIPM (Check both, if appl	MENT 7. licable)	STORAC	E AVAII	LABILITY	AT DESTINATION
Fred MSF	on C Spec 237A			RAIL X TR	ʻi	Unk	nown		•
6.	9.	10.	CONTRA	CT NO., PROGE	RAM, OR F	ROJEC	T TIT	E	6
		Orbiter	Orbiter	Orbiter					• •
YEAR	MONTH/	Sub-Assy	Aft Fus. &	Major Assy					
,	QUARTER	_	Crew Mod	Activation		·			
		_	_			. ,		,	•
1076	ļ	Downey	Downey	Downey	<del> </del>		<del></del>		· · · · · · · · · · · · · · · · · · ·
1974	2	<del> </del>		855	<del>                                     </del>		,		
	3	<u> </u>	n r m r	855	1				
	4			1,140					
1975	1	2,280							
-212	2	2,280	2,280	-	1		· ·	<del></del>	<del></del>
	3	2,280	2,280					<del></del> -	
	4	2,280	2,280	<del> </del>	<del> </del>				
1976	1	3,420	2,280	<del> </del>	<del> </del>				
	2	3,420	2,280 2,280	<del> </del>	+		ļ		1
	1 3	2,280 1,140	2,280						
1977	} <del>4</del>	1,140	2.280						
エフート	2						<u> </u>		<u> </u>
	3				<u> </u>		<u> </u>		
	4		<u> </u>	<b> </b>	_		ļ	<del></del> :	
1978	1				<del>- </del>	<del></del>		· · ·	<del> </del>
	2	<del></del>	<del> </del>						
-	3			<del>                                     </del>	1		<del> </del>		
	<del></del>	<del> </del>	<del>                                     </del>		+		<b> </b>		
							1.		
							<u> </u>		
						<del></del>	<del> </del>		<del> </del>
						<del></del>		· · · · · · · · · · · · · · · · · · ·	<del> </del>
	<u> </u>		<del> </del>	_			<del></del> -	····	-
		1			l				

11. METHOD OF COMPUTATION AND REMARKS

		12.1			<del></del>
12. TYPED NAME OF PREPARING	OFFICER		SIGNATURE		•
J. T. Lane, Supervisor,	Shuttle Logistics	Management	-4.0	) San	
13. TYPED NAME AND ORGANIZA			SIGNATURE	-	•
				·	

·	FORECAST C	F PROPELLA	NT REQUI	REM	ENTS		i 4-1	e prepari 9-74	Approval Expire	u No. 104-R024 es Mar-h 31, 1965
		(Enter complete no	ne and destinati	ion sh	ipping add	iress)	3. REPORTING PERIOD (Month and year)			
KOC	kwell Inte	rnational - :	To be used PLMD Fac.	ιaτ	מס.			97 <sup>4</sup>	то	1977
	214 Lakewoo		Site 1, A.				4. UNI	OF MEAS	UREMENT (Tons, 16	s., cubic feet,
	mey, Calif		Palmdale,				bottl	es, gailons	Poun	đs
and the second		ENCLATURE OF ITE			AETHOD		MENT	7. STORA	GÉ AVAILABILITY	AT DESTINATION
5. STOC	K NO. AND NOME	NCLATURE OF THE	-M	1	Check bot	h, if app	licable)			
Fre	on			_	RAIL	<u> </u>	RUCK		Unknown	
MSI	FC Spec 23	7A		-		. —				· · · · · · · · · · · · · · · · · · ·
à.	9.	10.	CONT	RAC	T NO.,	PROG	RAM, OF	S PROJE	CT TITLE	-
·	-	Orbiter								
YEAR	MONTH!	Final Assy		1						
1200	QUARTER							; ÷.	1.	
				ŀ		• • •				
		Palmdale				<u>.</u>		<u></u>		
1974	1	570								
	2									
	3	855						· · · · · ·		<del>                                     </del>
	14	1,140			<del></del>		<del></del>			
1975	11	1,140					<del>-\</del>		<del>                                     </del>	
	22	1,140							<del>                                     </del>	· ·
	3	1,140					<del> </del>	<del></del>		
	44	1,140	<del> </del>					<u> </u>		,
1976	11	1,140					<del> </del>			
	2	1,140	<del></del>				<del>                                     </del>			
	3	1,140	-							
	44	1,140	<del> </del>	<del></del>			1			
1977	1	1,140	<del>-</del>				<u> </u>			
. •	2	<del> </del>			<del></del>					
	3	<u> </u>	1	,	7.					
0	<del> 4</del>						<u> </u>		·	
.1978										
	2	<b>+</b>		·						
	<del></del>	-		1 -			<u> </u>	<u> </u>		
								<u> </u>		
					1					
				·	ļ			<u></u>		
				·	· · · ·		<del>-  </del> -	<del></del>		
1.5					<del> </del>			<del> </del>		
								·	_	<del> </del>
		•							<u> </u>	
		DUTATION AND RE	AA DKS	. ;'	1					

11. METHOD OF COMPUTATION AND REMARKS

Requirements based on Orbiter build and flow plans, hardware quantities, test
and production operations schedules.

			T 244 244	 
12. TYPED NAME OF PREPARING OFFICER			SIGNATURE	
J. T. Lane, Supervisor, Shuttle	Togistics	Management		
13. TYPED NAME AND ORGANIZATION OF APP			SIGNATURE	
13. TABED NAME AND OUGHNESS OF				 

F	FORECAST OF PROPELLANT REQUIREMENTS					1. DATE PREPARED Budget Bureau No. 164-R024 4-19-74 Approval Expires Mar 1. 31, 1966				
2. REPO	RTING ACTIVITY	(Enter complete nai		on sh	ipping address)		EPORTING	PERI		and years
Rock		national - To		at		FROM	1974	_	то	1977
	e Division 4 Lakewood				ado 80302	4. UN	T OF MEASI	JREMENT	(Tons, lbs	., cubic feet,
Dowr	nev Calif.	90241	·			bot	tles, gallons,	eic.) Star	dard C	ubic Feet
5. STOC	K NO. AND NOME	NCLATURE OF ITE	EM	6. h	AETHOD OF SHIPI Check both, if app		7. STORAG	SE AVAIL	ABILITY	AT DESTINATION
	lum Gaseou									
	6830-263-9			X	RAIL X TR	RUCK	Un	known		
	P-27497 (1			7.60	T NO., PROGE	3084 0	) 			· · · · · · · · · · · · · · · · · · ·
8.	9.	10.	CONT	HAC	I NO., PROGE	TAM, C	N PROJEC	. 1 TTTL	- ==	
	MORETHA/	Elec. Pwr.		-				: 1		
YEAR	QUARTER	Generation Cryogenic					. `			
		Tank Sub-	•			ľ				
		Contractor	•			1.			1	
1974	1	CONCLACTOR				1				
エフィ・	2	50,000						<del></del>		
	3	50.000								
	4	50,000								
1975	1	85,000				<u> </u>				
	2	85,000							·	*
	3	85,000		·		1	<u> </u>			
	14	85,000	<u> </u>		<u> </u>	<del> </del>	•		-	<del></del>
1976		30,000						<u> </u>		<u> </u>
		30,000					<del></del>	<b> </b> -		
	3	30,000			····	-		<del></del>		
	14	30,000	<u> </u>		•			-		<u> </u>
1977	1	40,000	1			-		<del>                                     </del>	<del> </del>	<del></del>
-		<b>-</b>		$\dashv$		+			· · · · · ·	
	3	<del>                                     </del>	<del> </del>			+	•			
1020	<del>                                     </del>	-		-		1 -		t		
1978	2					1		1		
	2					1				
	),		-							
					-		·	<u> </u>		<u> </u>
								ļ		
<i>'.</i>			1	: `		<u> </u>		ļ		
			<u> </u>	·				<b></b>		
		<u> </u>	·			+	-	ļ	·	
			1	<u> </u>	<b>]</b>	-		<del>                                     </del>	- · · ·	

11. METHOD OF COMPUTATION AND REMARKS

12. TYPED NAME OF PREPARING O	FFICER		SIGNATURE	-	
J. T. Lane, Supervisor,	•	Management		$r \rightarrow 2$	 
13. TYPED NAME AND ORGANIZATION			SIGNATURE	100	
				<u> </u>	

	ORECAST (	F PROPELLA		REMENTS	4-1	e prepari 9-74	Approval Expur	su No. 104-R024 es Mar-l 31, 1966	
		\	and the second s	ion shipping address;		I was a second and			
	well Intern e Division			at Sunstrand 747 Harrison	FROM 1	1974 TO 1977			
	4 Lakewood			ord, Ill.	4. UNI	T OF MEASI	JREMENT (Tons, lb	s., cubic feet,	
	ey, Calif.		.101		bottl	es, gattons,	Standard (	Cubic Feet_	
		NCLATURE OF ITE	EM	6. METHOD OF SHIP (Check both, if app	MENI	7. STORA	SE AVAILABILITY	AT DESTINATION	
	um, Gaseous			1	1	•			
	6830-263-98		•	X RAIL X T	RUCK	Unk	mown		
<u>MIL</u> _	P-27497 (1) 9.	10.	CONT	RACT NO., PROG	BAN OF	DDO IEC	TITLE		
٥,	9.	Aux.	1	RACT NO., FROO	1	(   1032			
YEAR	15023TH/	Power Unit				٠.			
· · · ·	QUARTER	Sub-	• ;			.			
		Contractor			4				
			,			:	<u> </u>		
1974	1								
	2								
_	3	40,000			_				
	4	40,000		- <u></u> -	<del>-  </del>	· .			
1975	<u> </u>	40,000			1				
	2	40,000 40,000			<del>                                     </del>				
	1	40,000			-				
1976	1	40,000							
	2	40,000							
	3	40,000			,				
-	14	40,000				· ·		<u> </u>	
1977	11	15,000							
	2								
	<del>3</del>						·		
2000	1 4	<del>                                     </del>	<u> </u>			* .*			
,1978	<del></del>			·	<u> </u>				
	5								
	),							·	
						<u> </u>			
	ļ ·				_	·		<u> </u>	
		· · ·					<u> </u>	<b>_</b>	
		<u> </u>				<del></del>	-		
	-		<del> </del>		<del> </del>	- 1		<del> </del>	
4. 2					-				
						<del></del>			
11 14	1	TATION AND DEMA	<del></del>				· <del>· · · · · · · · · · · · · · · · · · ·</del>		

12. TYPED NAME OF PREPARING OFFICER		SIGNATURE	
J. T. Lane, Supervisor, Shuttle	Logistics Management	<u></u>	
13. TYPED NAME AND ORGANIZATION OF AP	PROVING OFFICIAL	SIGNATURE	

	<u> </u>	OF PROPELL. (See Instructions of	n tevetie.)		4-19-74	Approval Expu	au No. 104-RG24 es March 11, 1955
Rock Spac 1221	well Intern e Division 4 Lakewood	national - To Mi Blvd. Fa	be used a ssissippi cility		1974	NG PERIOD (Mon.) TO  SUREMENT (Tons, IL s, Standard	1977
		90241 ENCLATURE OF IT	EM	6. METHOD OF SHIP	MENT 7. STOPA	GE AVAILABILITY	AT DESTINATION
FSN	um, Gaseou: 6830-660-00 P-27407 Tv	026		(Check both, if app	RUCK <u>Unkn</u>	own	
8.	9.	10.	CONT	RACT NO., PROG	RAM, OR PROJE	CT TITLE	
YEAR	MONTH/ QUARTER	MPTA Test		-			
1974	1						
1975	2 3 4 1						
1976	2 3 4						
2) 0	2 3 4	65,000					
1977	1 2 3	65,000					
. 1978	1 2 3						
	4						
11. MET	HOD OF COMPU	TATION AND REMA					

12. TYPED NAME OF PREPARING OFFICER	SIGNATURE
. T. Lane, Supervisor, Shuttle Logistics Management	- T. W.
13. TYPED NAME AND ORGANIZATION OF APPROVING OFFICIAL	SIGNATURE

F	ORECAST (	F PROPELLA	NT REQUIR	EMENTS	4-	19-74	Approval Expir	u No. 104-R024 es Mar h 31, 1966
2. REPO	RTING ACTIVITY	(Enter complete nan	ne and destination	shipping address)	3. R	EPORTIN	G PERIOD (Month	and years
	well Inter	the state of the s			FROM	- 01	то	1077
	e Division		÷			1974	. 1	1977
	.4 Lakewood				4. UN	T OF MEAS	UREMENT (Tons, 16	s., cubic feet,
	ey, Calif.		•		bott	ies, galions	, etc. Standard	Cubic Feet
		NCLATURE OF ITE	м 6	. METHOD OF SHIP	MENT	7. STORA	GE AVAILABILITY	AT DESTINATION
		The second secon	"	(Check both, if app		Traile:		
	um, Gaseou		:	. TRAIL X T	RUCK	Traile.	rs	
	9135-890-2	OTT		. تع ما الم		l i		
	P-27407	T	CONTR	ACT NO., PROG	BAM O	R PROJE	T TITLE	•
8.	9.	10.	CONTR	ACT NO., TROO	1			
	10008TH/	L&T	•				ļ	
YEAR	QUARTER	Development			1			
					1			
	,			1				
				<del></del>	+ -			·
1974	11		·					
	2	80,000				<del></del>	<u></u>	
	3.	100,000			-			
•	4	200,000	•		<del></del>		ļ	
1975	1	300,000			l		ļ	
	2	400,000		<u> </u>			<b></b> -	
	3	600,000			<del>                                     </del>		<u> </u>	-
	14	600,000			_			<u> </u>
1976	1	900,000				<del></del>	<u> </u>	<del>                                     </del>
->   -	2	900,000			·	·		<del> </del>
	3	900,000						
	lı .	900,000						-
1977	7	1,000,000					<u> </u>	
エフロロ	. 2	1				1.0		<u> </u>
	2							<u> </u>
	1		N.				1 1 1 1 1 1 1	
1079	1 1							
1978	2		1					
	2							
	<del></del>	<del> </del>	1			•		<u> </u>
	<del>- 4</del>		-					<u> </u>
			1	F6.				
			<del> </del>					
		+	+					
	, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	<del></del>						
	-							
			<del> </del>					
			<del></del>					
		ITATION AND REM	1			· · · · · · · · · · · · · · · · · · ·	<u> </u>	

12. TYPED NAME OF PREPARING OFFICER	SIGNATURE	•
J. T. Lane, Supervisor, Shuttle Logistics Management	SIGNATURE	
13. TYPED NAME AND ORGANIZATION OF APPROVING OFFICIAL		

1974   1	1. DATE PREPARED Budget Bureau No. 104-R024 4-19-74 Approval Expires Mar A 31, 1966				
Rockwell International   Space Division   1974   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977   1977					
12214   Lakewood Blvd.					
S. STOCK NO. AND NOMENCLATURE OF ITEM   Helium, Gaseous   FSN 9135-926-888   TRUCK   TRUCK   TRUCK   TRUCK   S.   TRUCK   TRUCK   TRUCK   S.   TRUCK   TRUCK   S.   TRUCK	eet				
Helium, Gaseous   Check both, 13 applicable   K-Cylinders   K-Cylinder	ATION				
FSN 9135-926-888  MIL-P-27407  8.  YEAR  VEAR  VEAR  10.  CONTRACT NO PROGRAM, OR PROJECT TITLE  L & T  Development Operations and Test Sommer B/290  1974  1 2 10,000 176,850 3 10,000 208,200 4 10,000 208,200 14 10,000 208,200 15,000 3 10,000 208,200 15,000 11,000 208,200 15,000 11,000 208,200 15,000 11,000 208,200 15,000 11,000 208,200 15,000 11,000 208,200 15,000 11,000 208,200 15,000 11,000 208,200 15,000 11,000 208,200 15,000 11,000 208,200 15,000 11,000 208,200 15,000 11,000 208,200 15,000 11,000 208,200 15,000 11,000 208,200 15,000 11,000 208,200 15,000 11,000 208,200 15,000 11,000 208,200 15,000 11,000 208,200 15,000 11,000 208,200 15,000 11,000 208,200 15,000 11,000 208,200 15,000 11,000 208,200 15,000 11,000 208,200 15,000 11,000 208,200 15,000 11,000 208,200 15,000 11,000 208,200 15,000 11,000 208,200 15,000 11,000 208,200 15,000 11,000 208,200 15,000 11,000 208,200 15,000 11,000 208,200 15,000 11,000 208,200 15,000 11,000 208,200 15,000 11,000 208,200 15,000 11,000 208,200 15,000 11,000 208,200 15,000 11,000 208,200 15,000 11,000 208,200 15,000 11,000 208,200 15,000 11,000 208,200 15,000 11,000 208,200 15,000 11,000 208,200 15,000 11,000 208,200 15,000 11,000 208,200 15,000					
MTIL-P-27407  8.   3.   10.   CONTRACT NO., PROGRAM, OR PROJECT TITLE    1					
10.   CONTRACT NO PROGRAM, OR PROJECT TITLE     YEAR					
Tear   Development   Development   Operations and Test   CM Proof-leak Test	. 40				
Development   Operations   Aft Fus & CM Proof-leak Test					
Downey   B/290   Downey   B/290   Downey   B/290   Downey   B/290   Downey   B/290   Downey   Downey   B/290   Downey   Downey					
Downey   B/290   leak Test					
1974   1					
1974       1         2       10,000       176,850         3       10,000       208,200         4       10,000       208,200         1975       1       10,000       208,200         2       10,000       208,200       15,000         3       10,000       208,200       21,000         4       12,000       208,200       21,000         9       12,000       208,200       15,000         3       12,000       208,200       15,000         3       12,000       208,200       15,000         1977       1       12,000       208,200       15,000         1978       1       12,000       208,200       15,000					
2					
1975					
1975       1       10,000       208,200       10,000         2       10,000       208,200       15,000         3       10,000       208,200       21,000         1976       1       12,000       208,200       21,000         2       12,000       208,200       15,000         3       12,000       208,200       15,000         3       12,000       208,200       15,000         1977       1       12,000       208,200       15,000         2       3       4       12,000       208,200       15,000         1978       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1 <td></td>					
1975					
2 10,000 208,200 15,000 3 10,000 208,200 21,000 4 12,000 208,200 21,000 2 12,000 208,200 15,000 3 12,000 208,200 15,000 4 12,000 208,200 15,000 1 12,000 208,200 15,000 1 12,000 208,200 15,000 1 12,000 208,200 15,000 1 12,000 208,200 15,000	~···=				
3 10,000 208,200 15,000 4 12,000 208,200 21,000 2 12,000 208,200 15,000 3 12,000 208,200 15,000 4 12,000 208,200 15,000 1977 1 12,000 208,200 15,000 2 3 12,000 208,200 15,000 1977 1 12,000 208,200 15,000					
1976					
1976	<u>.                                    </u>				
2   12,000   208,200   15,000					
1977					
1977 1 12,000 208,200 15,000 2 3 4 1 1978 1	<del></del>				
1978	·				
1978	·				
1978					
1978					
1978					
3					
	· · · · · ·				

11. METHOD OF COMPUTATION AND REMARKS

Requirements based on anticipated testing, build and flow plans, and production operations schedules.

12. TYPED NAME OF PREPARING OFFICER	SIGNATURE
J. T. Lane, Supervisor, Shuttle Logistics Management	- Colore
13. TYPED NAME AND DRIGANIZATION OF APPROVING OFFICIAL	SIGNATURE

_					DATE PREPARED	N 0	No. 104-R024
-		F PROPELLA	reverse.)	EN13	4-19-74	Approval Expire	s Max 1 31; 1966
2. REPO	RTING ACTIVITY	(Enter complete nan	ne and destination wh	ipping address; 3		PERIOD (Month	and year/
		ational - To			1974		197 <b>7</b>
	Division		ID Fac. 1500			· · · · · · · · · · · · · · · · · · ·	· · · · · · · · · · · · · · · · · · ·
	Lakewood		e 1, A.F. Pl	ant 42	. UNIT OF MEASUR	REMENT (1008, 108 Standard	Charles To at
Downe	v Calif.	90241 Pa	mdale, Calif	93550		AVAILABILITY A	TOTAL FEEL
5. STOC	K NO. AND NOME	NCLATURE OF ITE	u 16. )	METHOD OF SHIPME Check both, if applic	nt 7. STORAGE	E AVAILABILITY	(L DESTINATION
Heliu	ım, Gaseous		1		(	THELS	
	9135-926-88		∐∆	RAIL TRU	CK		
	2-27407 Typ			T NO., PROGRA	M OD BBO IFC	TITLE	<b>\$</b>
8,	9.	10.	CONTRAC	T NO., PROGRA	M, OR PROJEC	1	
		Orbiter					
YEAR	QUARTER	Final Assy					
		Activation	1				
							5•
1 201		Palmdale					
1974	1						· .
	2	07.000					
	3. 14	21,000					
3.000	·····	21,000 15,000	<u> </u>				
1975	<del></del>	10,000					
	3	10,000				1	<u> </u>
	<u> </u>	10,000				<u> </u>	
1076	1	-					
1976	2						
	3				<u> </u>		
	3						
1977	1 1						
エフリ	2						
	3						
	Ĭ4						
1978							
1-21-	2		ļ				
42 2	3						
	1						
			-				
			<del> </del>				
$\{x^{k}(x)\}_{k \geq 0} = \{x\}$		_	<del> </del>	-			
5 A .			1		1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1		
		·					
	.	to the state of th					

11. METHOD OF COMPUTATION AND REMARKS

Requirements based on anticipated testing, build and flow plans, and production operations schedules.

		and the second second				 . ,	
12. TYPED NAM	C OF BREPARING	OFFICER			SIGNATURE _		
					آ ہے۔	 	
J. T. Lane,	Supervisor,	Shuttle :	Logistics_	Management			
13. TYPED NAM	E AND ORGANIZAT	TION OF APPR	OVING OFFICE	NL.	SIGNATURE		
13. TABED HAW	E AND ONGRITIZAT						
					<u> </u>	 <del></del>	

		OF PROPELL	n reverse.)			4-19-		es merce es este	au No. 104-RG24 es Maris 31, 1964
Rocl		Y (Enter complete no national - T	o be used	at	ing address)	3. REPO FROM 197		PERIOD (Monti	
1221 Down	l4 Lakewood ney, Calif.	Blvd. S 90241	1.	p. Cali	f. 95813			REMENT (Tons, 1b	and the second second
5. STOC	к ио. анд номе Lum, Gaseou	ENCLATURE OF IT	EM	6. MET (Che	HOD OF SHIP ick both, if app	dicable 1		E AVAILABILITY inders	AT DESTINATION
FSN	9135-926-8 -P-27407			<b>∑</b> R	AIL X TE		11-0j 1	-Indet 5	
6.	9.	10.	CONT	RACT	NO., PROGI	RAM. OR PE	OJEC	TTITLE	
		OMS Engine	<u> </u>			1	T		
YEAR	MONTH/	& Pod Sub-							
	QUARTER	Contractor			•				
		Jonetace							
				<b> </b>			- }	•	
1974	1					1.		-	<del></del>
	2	800,000							
	3	900,000	1 .			<del> </del>			
	4	700,000					t	· · · · · · · · · · · · · · · · · · ·	
1975	1	800,000					-	7.	-
i	2	900,000							
	3	700,000				1		******	
	4	1,400,000							
1976	1	1,600,000							
	2	1,850,000							-
	3	2,500,000				1			
	Ĭ,	2,000,000			1				***
1977	1	1,700,000							
	2								
	3								
	4								
1978	1								
	2								
5	3		ļ						
1	1								
			1					•	
•									
			<u> </u>		<u> </u>				
		*		1.	·				
		ļ —————	ļ			<u> </u>			
			`				3 ·		•
11 1457	HOD OF COURTS	 	<u></u>			<u> </u>	·		
wel	HOU OF COMPUT	TATION AND REMA	RKS						

Based on anticipated testing requirements.

12. TYPED NAME OF PREPARING OFFICER	SIGNATURE		
J. T. Lane, Supervisor, Shuttle Logistics Management		1000	
13. TYPED NAME AND ORGANIZATION OF APPROVING OFFICIAL	SIGNATURE		<del> </del>
	1		

F	FORECAST	OF PROPELLA		EMENTS	1. DATE PREPAR 4-19-74		u No. 104-RG24 is March 31, 1956
2. REPO	RTING ACTIVIT	Y (Enter complete na		n shipping address)	3. REPORTIN	G PERIOD (Month	and year,
Roc		rnational - T	•		FROM 1974	то	1977
122	14 Lakewoo	d Blvd.			4. UNIT OF MEAS bottles, gallons	Standard	s., cubic feet,
	ney, Calif	90241 S	st. Louis M	6. METHOD OF SHIP	L	SE AVAILABILITY	AT DESTINATION
		·	.	(Check both, if app	licable) K-Cyl:	and the second s	
FSN	ium, Gaseo 9135-926-	8888 8888		RAIL X TR		inder's	
	-P-27407				<u> </u>		
8.	9.	10.	CONTR	ACT NO., PROGE	RAM, OR PROJEC	TITLE	
YEAR	HONTH/ QUARTER	RCS Engine & Pod Sub-	i				
	-	Contractor					
1974	7						<del></del>
1914	2	9,000	3				
	<u>-</u> ع	9,000					
.	1	9,000					N
1975	1	9,300					
-/'/	2	9,300		···· •			
	. 3	9,300	·			14	
	4	18,600					
1976	1	18,600					
	2	23,600					
	3	23,600	ļ			<u> </u>	
. '	4	18,600	·		1		
1977		18,600	<u> </u>	-			
	2	14,000					
	-3						
1978	}						٠,
1910	2						1
	2	1			1		
	Ĭ.						
		-	<u></u>				
			<b></b>				
•							
*		***	<del> </del>		1	<del> </del>	
11 MC 1	THOD OF COUR	ITATION AND BENA	]		1	1	<u> </u>

Based on anticipated testing requirements.

12. TYPED HAME OF PREPARING OFFICER	SIGNATURE	
J. T. Lone, Supervisor, Shuttle Logistics Management		<u> </u>
13. TYPED NAME AND ORGANIZATION OF APPROVING OFFICIAL	SIGNATURE	
		and the second second

		OF PROPELL	n tevetse.)			11. OATE PREPA 4-19-74	nauker ume	rau No. 104-R624 res March 31, 1956
		Y (Enter complete n					NG PERIOD (Mon:	h and year,
Roc	ckwell Inte	rnational -				FROM	то	
	ace Divisio	n	Aviation,	4747 Har	rison ·	1974		1977
122	214 Lakewoo	d Blvd.	Ave., Rock	ford, Il	1.	4. UNIT OF MEA	SUREMENT (Tons, 1	bs., cubic feet,
Dov	vnev. Calif	` 90241	61101			ooules, callon	s, etc.). Pound	le
_		ENCLATURE OF IT	EM '	6. METHOD	OF SHIP) oth, i∫ app	MENT 7. STOR	AGE AVAILABILITY	AT DESTINATION
	irazine, N			•		( Twe	enty) 55 Gal.	Drums
FSI	N 9135-753- L-P-265 36C	4568	• •	RAIL	X) TR	ruck .	• • • • • • • • • • • • • • • • • • •	
MII						1		
ь.	9.	10.	CONT	RACT NO.,	PROGE	RAM, OR PROJE	CT TITLE	•
	RECEIVES.	Aux.	1	1	•	}		
YEAR	QUARTER	Power Unit		- 1				
		Sub-	ļ .	· ]		<u> </u>	İ	İ
		Contractor		. ] '				
1974	1	<del></del>	<del></del>	<del></del>		<del></del>		
	2	<del>                                     </del>			<del></del> -		<u> </u>	
	3	75,000						
	4	75,000					<del> </del>	
1975	1	75,000					<del></del> ,	
	2	75,000						
	3	75,000	·				<del> </del>	
	4	75,000					<del> </del>	
1976	1	75,000					<u> </u>	
	22	75,000						
	3	75,000					<del></del>	
	4	75,000				,	-	
1977	<u> </u>	30,000					1	
	2		· · · · · · · · · · · · · · · · · · ·			``		
	3				. :			
	<del>4</del> -	· · · · · · · · · · · · · · · · · · ·		<del></del>				
1978	<del>- 1</del>	<del> </del>		<u> </u>				
	2							
	<del> 3</del>				• • •			
•	4		-	<del>-  </del>				
	· · · · ·							
			· · · · · · · · · · · · · · · · · · ·					<u>·</u>
•				<del></del>		<del></del>	ļ	
				<del></del>	<del>-,-</del>			
				-		<del></del>	<u> </u>	
		-		_	-	· · · · · · · · · · · · · · · · · · ·		
II. MET	HOD OF COMPU	TATION AND REMAI	RKS			· · · · · · · · · · · · · · · · · · ·	<u>,                                     </u>	L

			•
12. TYPED NAME OF PREPARING OFFICER	SIGNATURE		<del></del>
J. T. Lane, Supervisor, Shuttle Logistics Management		(===	
13. TYPED NAME AND ORGANIZATION OF APPROVING OFFICIAL	SIGNATURE		
			•
11454 500, 1655			

		OF PROPELLA		MENTS	1. DATE PREPAR		u No. 194-RG24 is March 31, 1966		
Rock Spac 1221	well Inter e Division 4 Lakewood	Blvd. B	· · · · · · · · · · · · · · · · · · ·	Beech	3. REPORTING PERIOD (Month and year) FROM 1974 1977  4. UNIT OF MEASUREMENT (Tons, lbs., cubic feet, ootsles, gallons, cic.) Standard Cubic Feet.				
s. stoc Hydr FSN	ney, Calif. k no. and nome cogen, Gase 9135-823-8 -P-272010	NCLATURE OF ITE	1		uck Unk	nown	AT DESTINATION		
8.	9.	10.	CONTRA	CT NO., PROGE	RAM, OR PROJEC	TITLE			
YEAR	MONTH/ Quarter	Elec. Pwr. Generation Cryogenic							
		Tank Sub- Contractor							
1974	<u>2</u> 3	58,000 58,000		•					
1975	4	58,000							
<b>191</b> )	2 3 4	95,000 95,000 95,000							
1976	1 2	95,000 3 <sup>1</sup> 4,000 3 <sup>1</sup> 4,000							
1977	3 4 1	34,000 34,000 46,000							
· 1 0 7 Q	3 4								
1978	2								
	3								
. <u></u>	•								

11. METHOD OF COMPUTATION AND REMARKS

					A A CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACT		<u> </u>		
_	12. TYPED NAM	E OF PREPARING	OFFICER			SIGNATURE			
·	J. T. Lane,	Supervisor,	Shuttle	Logistics	Management			<u> </u>	<u> </u>
-		E AND ORGANIZAT				SIGNATURE		- 1	1

- 15	<u> </u>	OF PROPELL.	n-reverse.)		'		E PREPAR .9-74			raw No. 104-R014 res March 31; 1956	
Roc Špa	ckwell Inte ace Divisio		To be used Whitney Ai	. at Prat	t& .	FROM	EPORTIN 1974		D (Mon:	and year,	
Dov	12214 Lakewood Blvd. Main St.  Downey, Calif. 90241 E. Hartford, Conn. 06108  4. UNIT OF MEASUREMENT (Tons. ibs., cubic feet, cottles, callons, vic.) Standard Cubic Feet										
	5. STOCK NO. AND NOMENCLATURE OF ITEM Hydrogen, Gaseous  6. METHOD OF SHIPMENT 7. STORAGE AVAILABILITY AT DESTINATION (Check both, if applicable)									AT DESTINATION	
FSI	7 9135-823- G-P-272010	8133		RAIL X TRI							
8.	9.	10.	CONT	RACT NO.	PROGR	AM OF	DDA (C	CT TIVE	<del>-</del> .		
		Elec. Pwr.	,	1		1	FROJE	- 1112	<u> </u>	<u> </u>	
YEAR	NORTH/ QUARTER	Generation Fuel Cell									
		Pwr. Plant Sub-Contrac	tor						•		
1974	1				<u></u>		· · · ·		<del></del>	<del> </del>	
-	2	76,000		-							
	3	76,000		;							
	<u> </u>	76,000					· · · · · · · · · · · · · · · · · · ·			<del> </del>	
1975	<u>1</u>	114,000					<del></del>			<u> </u>	
	2 .	114,000									
	3	114,000									
	4.	114,000								,	
1976		56,000									
	2	56,000	<del></del>								
	<del>3</del>	56,000_									
3.000	4	56,000							- '		
1977		38,000				-					
	<del>- 3</del>			· .	<del></del>	<u> </u>			·		
1978	- <del>9</del>				<del></del>					<u> </u>	
1210	2	-				,				<u> </u>	
	- α	· · · · · · .				·					
		- 10-				<del></del>		·	•	<u> </u>	
. :				<del></del>	,				<del></del> -		
1											
					3 /			-	<del></del>	<u></u>	
. ]								٠		<del></del>	
	· _								· <del>-</del>		
·	<del></del>										
Ì					1 7		•				
11. MET	HOD OF COMPUT	TATION AND REMAI			; :						

12. TYPED NAME OF PREPARING OFFICER	SIGNATURE
J. T. Lane, Supervisor, Shuttle Logistics Management	- Colombia
13. TYPED NAME AND ORGANIZATION OF APPROVING OFFICIAL	SIGNATURE

NASA FORM 1057 SAPR 64

	FORECAST (	OF PROPELLA		REME	NTS	1.	0ATE PREPAR 4-19-74	Appro	val Expire	u No. 104-RG24 rs March 31, 1966
		Y (Enter complete na	me and destinati	ion ship	p <b>ing</b> address,			G PERIC		and year
	kwell Inte					ं: <b>र</b>	гом 1974	1	ТО	1977
Spa	ce Divisio	n				·	UNIT OF MEAS	UREMENT	(Tons. lb	
	214 Lakewood						pottles, gallons		lons -	
5. STOC	K NO. AND NOME	90241 ENCLATURE OF ITE	М		THOD OF SH			GE AVAIL	ABILITY	AT DESTINATION
Hyd	lrogen, Liq	uid			eck both, if		2,00	O Gal.	Tanks	
FSN	9135-611  -P-27201B				RAIL X	TRUC	K !			
8.	9.	10.	CONT	RACT	NO., PRO	GRAN	M, OR PROJE	CT TITL	E	
YEAR	MONTH/ QUARTER	L & T Development Downey								
1974	1									
	2								, \$5.	**************************************
	3			:		<u>.</u>	· .	-		
	4	2.						<del> </del>		
1975	} <del>-</del>	2					· · · · · · · · · · · · · · · · · · ·			
**	2	3	. ;					<del> </del>		
	<u> </u>	1 2		_					- : - :	
1976	7	4						<u> </u>	,	
2710	2	4								
	3	4	2.5							
. :	<u> </u>	4			· · · · · · · · · · · · · · · · · · ·				·	
1977	1	4							···	
i v	2	<u> </u>				<del>.  </del> -	•	ļ		
	3				<del></del>		* .*	<del> </del>		
1978	4							1	· ·	
1910	2									
- T	3									
	i i							1 + 5 + 1	<u> </u>	
								1	· · ·	
. •					<del> </del>	· _		1		
		1	-			+		<del> </del>		
					· · · · · · · · · · · · · · · · · · ·			1	· .	
· · · · · · · · · · · · · · · · · · ·								-		
					11.5		2011	,		
11. ME	THOD OF COMPU	TATION AND REMA	RKS		<del></del>		garan da da da da da da da da da da da da da			

12. TYPED NAT	ME OF PREPARING	OFFICER		<u> </u>	SIGNATURE			
J. T. Lane,	Supervisor,	Shuttle	Logistics	Management		1.00	to-	
13. TYPED NAM	AE AND ORGANIZA	TION OF APP	ROVING OFFICE	AL	SIGNATURE			1.
							-	

		OF PROPELL.	n reverse.)		4-19-74	Approval Expi	au No. 104-R624 res March 31, 1955
				ion shipping address)		G PERIOD (Mont	t and year;
		ational - To			: FROM 1974	то	1977
	e Division	· · · · · · · · · · · · · · · · · · ·	ssissippi cility	Test	100000000000000000000000000000000000000		
	4 Lakewood		CITICA.		bottles, gallon	SUREMENT (Tons, ()	s., cubic feet,
	ey, Calif.	SUCATURE OF IT	EM	6. METHOD OF SHIP	MENT 7 STORA	TONS	AT DESTINATION
	ogen, Liqui		•	(Check both, if app	licable)	VE HVALEABIETT	AT DESTINATION
	9135-611-13			X RAIL X TE	uck Unknow	vn	
	P-27201B		· ·			•	
8.	9.	10,	CONT	RACT NO., PROGE	RAM, OR PROJE	CT TITLE	
	MACHET LIV	MPTA					
YEAR	QUARTER	Test		'			
•							
1974	i	<del></del>			<del>                                     </del>		<u> </u>
~ <i>J</i>   1	2				<u> </u>		
•	3						
	14				†		
1975	1						
•	2					1	
	3						
_	4		· ·				
1976	<u> </u>						ļ
	2					· · · · · · · · · · · · · · · · · · ·	
	]3	650			ļ	<u> </u>	<u> </u>
1977	4	650					<u> </u>
エントト	2		-			-	
•	3						<u> </u>
	<u> </u>					1	<u> </u>
1978							
-	2						
	3				<u>'</u>		<u> </u>
	4.		· · · · · · · · · · · · · · · · · · ·		·		
						<u> </u>	
						<u> </u>	
							<del></del>
	*						
11 4455	THOS OF COMPAN	<u> </u>	` .	· I			
II. ME	INOD OF COMPS.	TATION AND REMA	RKS	* *			· · · · · · · · · · · · · · · · · · ·

12. TYPED NAME OF PREPARING OFFICER	SIGNATURE
J. T. Lane, Supervisor, Shuttle Logistics Management	
13. TYPED NAME AND ORGANIZATION OF APPROVING OFFICIAL	SIGNATURE
NASA FORM 1057 ADD CO	

3 2 2 2	~ martin a 1	(See instructions of				<u>i 4-19</u>			pires March 31, 1956
	well Inter	Y (Enter complete ne	ame and destinati	on shipping	address;	S. RE		PERIOD (Mor	ith and year,
	e Division						74		1977
	4 Lakewood			•		A. UNIT	OF MEASU	REMENT /Tons.	Ibs., cubic feet,
Down	ey, Calif.	90241	*			pottle	s, gallons,	Tons	
		ENCLATURE OF IT	EM	6. METHO	OF SHIPS		. STORAG	E AVAILABILIT	Y AT DESTINATIO
	ogen, Liqu						TT1		
	9135-611-1; P-27201B	341		RAIL	X TR	IUCK	Unknowi	1.	
8.	9.	10,	CONT	RACT NO	, PROGE	RAM, OR	PROJEC	TTITLE	
		Component							
YEAR	MONTH/ QUARTER	Suppliers							
1974	1	<del>                                     </del>				ļ			
	2	1							
	3					1			· ·
. ]	14				,				
1975	1								
	2	1.6		<u> </u>		]			<u> </u>
	3 1	1.6 1.6		- <u>N</u>	a Tail age <del>-                                    </del>				
1976	<del></del>	1.6							-
+ <b>/</b> 10	2	1.6				ļ	· · · · · ·		
	3								
-	Ĭ,								
1977	1								
	2				7	ļ			
	3				<del> </del>	-			<del></del>
1978	<del>'</del>								
- <b>)</b>  \	2					t			
	3						•		
	Ĭ								
	·				·				
					<del></del>	ļ		<u> </u>	<del> </del>
	* * : :					<del> </del>	7.5		
					· · · · · · · · · · · · · · · · · · ·				<u> </u>
					• • • • • • • • • • • • • • • • • • • •				1
	<i>'</i>				•,			And the second	

12. TYPED NAME OF PREPARING OFFICER	SIGNATURE -		4 7 9 2
J. T. Lane, Supervisor, Shuttle Logistics Management			
13. TYPED NAME AND ORGANIZATION OF APPROVING OFFICIAL	SIGNATURE	* * * * * * * * * * * * * * * * * * * *	
			<del> </del>

	FORECAST	OF PROPELL		REMENTS	11. DATE PREPAR	o whet oute	au No. 104-R628 es Warch 31, 1966	
Rock Spac	well Intern e Division	national - To Be	be used a	aft	3. REPORTING PERIOD (Month and year) FROM TO 1974 1977			
Down	ey, Calif.			lorado 80302	4. UNIT OF MEA: bottles, gallon	SUREMENT (Tons, 18	s., cubic feet,	
		ENCLATURE OF ITI	EM .	6. METHOD OF SHIP (Check both, if ap		GE AVAILABILITY	AT DESTINATION	
FSN	ogen, Liqui 9135-611-13	34 <b>7</b>		RAIL X	auck Unkn	own		
MSFC	<u>-SPEC-356A</u> 9.	- MIL-P-2720		RACT NO., PROG	BAM OF PROJE			
		Elec. Power	}	TAC: NO., FROS	KAM, OR PROJE	CITTLE		
YEAR	MONTH/ QUARTER	Gen.				·		
-		Cryogenic Tank					· .	
1974	1	Supplier	· · · · · · · · · · · · · · · · · · ·					
-711	2							
	1				<del>                                     </del>			
1975	1					ļ		
.,,	2	2.6				†		
	3							
	<u> </u>	5.9			-	<u> </u>		
1976	2					<u></u>		
	3	2.0				1		
	14							
1977	1							
	2	<del> </del>						
	<del>3</del>							
3 0520	<del> 4</del>	<u> </u>	<u> </u>			<del> </del>	-	
1978	2						· · · · · · · · · · · · · · · · · · ·	
	3							
	¥							
		<u> </u>						
	<u> </u>		<b></b>		<u> </u>	<u> </u>		
	<b></b>	<del>                                     </del>	<del> </del> -			<u> </u>	:	
						<del> </del> -	<u> </u>	
							-	
		ļ			·			
11. ME 1	THOO OF COURT	TATION AND REMA	D.K.C.	·				
· · · mc	. HOU OF COMPU	IN CION AND HEMA	mrs · ·					

12. TYPED NAME OF PREPARING OFFICER	SIGNATURE
J. T. Lane, Supervisor, Shuttle Logistics Management	- dica de
13. TYPED NAME AND ORGANIZATION OF APPROVING OFFICIAL	SIGNATURE

	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	OF PROPELLA	reversed.		117	1. DATE PREPAR 4-19-74	Approval Expir	iú No. 104-RG24 ns March 31, 1966
Z. HEPO	RTING ACTIVITY	Y (Enter complete na	me and destinati	on shipp	ing address)	3. REPORTIN	G PERIOD (Month	and year,
		rnational - T	o be used	at .	• .	FROM	ТО	1077
	ce Division		erojet Co	rp.	11.	1974		1977
	14 Lakewood					andelan sallani	IUPEMENT (Tons, 16	· · · · · · · · · · · · · · · · · · ·
Dow	ney Calif	. 90241 S	Sacramento			ootiles, gallons	Founds	
		NCLATURE OF ITE			HOD OF SHIP	MENT 7. STORA	GE AVAILABILITY	AT DESTINATION
		drazine (MMH)		·		DCOTAB	e Space for ( Bulk Storage	220, 22 GaT.
MIL	-P-27404A			R	AIL TE	ock Drums,	by 4th Atr.	107h
,	9.					AM, OR PROJE		1714
8.	9,	OMS Engine	CONT	RACT	NO., PROGE	RAM, OR PROJE	CITHE	***
	190957114/	& Pod Sub-						
YEAR	QUARTER	Contractor						
			1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1					
							!	
1974	i				<del></del>			
	2	25,500					,	· .
•	3	29,400						
	4	22,500						
1975	1	26,800	1.					
	2	29,100						
	3	23,500						
	4	45,100				· · · · · · · · · · · · · · · · · · ·	<u> </u>	
1976	<u> </u>	52,900					<u> </u>	
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	2	59,800						
	3	80,400	<del>(3°</del>		<del></del>			
	44	65,400			<del></del>	<u> </u>	-	
1977	]	53,300			<u>,                                     </u>			
-	2	49,700		_				
	3				<del></del>	· · · · · · · · · · · · · · · · · · ·		
1978	1				<del></del>		1	
1910	2							
	3							
	1		2.5					
1			<u>,</u>		· · · · · · · · · · · · · · · · · · ·	ļ	<u> </u>	ļ
		ļ				-		
		· · ·	1 1	_		<del>                                     </del>		
						<del>                                     </del>		
	<u> </u>	<u> </u>	<u> </u>		<del></del>	1	1	

Based on anticipated testing requirements.

	· · · · · · · · · · · · · · · · · · ·			<u>, , , , , , , , , , , , , , , , , , , </u>	
12. TYPED NAME OF PREPARING OFFICER		SIGN	ATURE		
J. T. Lane, Supervisor, Shuttle	Logistics Ma	anagement <		" Stern	
13. TYPED NAME AND ORGANIZATION OF APP	ROVING OFFICIAL	SIGN	ATURE .		
				S.	·

		OF PROPELL	n reversé.)		11. DATE PREPAR 4-19-74	marker name	rau No. 104-R624 ires March 31, 1966
Roc	ckwell Inte	rnational -	To be used	ion shipping address;	FROM	G PERIOD (Mon:	in and year/
122	ace Divisio 214 Lakewoo vney, Calif	d Blvd.	MAC/DAC		1974  4. UNIT OF MEAS	SUREMENT (Tons, L	
s. stoc Mor	K NO. AND NOM	. 90241 enclature of it drazine (MMH		6. METHOD OF SHIP (Check both, if ap)	MENT 7. STORA	Pounds GE AVAILABILITY IL. Drum	
6.	9.	10.	CONT	RACT NO., PROG	BAM OF FRA	AT MIN	
YEAR	MONTH/ Quarter	RCS Engine & Pod. Sub- Contractor		1	NAM, OR PROJE	CITTLE	Naga.
1974	1 2 3 4	420			,		
1975	1 2 3	1,050 1,050 1,050					
1976	1 2	1,050 84 84					
1977	3 	84 84 84 84					1
1978	3 4	84 .84 .84			7		
	3	84 84 84					
				-			
11. MET	HOD OF COMPU	TATION AND DEMAI	ave .		J		<u> </u>

Based on anticipated testing requirements.

12. TYPED NAME OF PREPARING OFFICER			1 2/2/12 200		 <del></del>
J. T. Lane, Supervisor, Shuttle	Togistics	Managamant	SIGNATURE	1.00	 
13. TYPED NAME AND ORGANIZATION OF APPE	ROVING OFFICIA	r ranakewene	SIGNATURE		
	<u> </u>				
MACA FORM 1067 APP		***************************************		*****	 

	ORECAST	OF PROPELLA	NT REQUI	REMENTS	1 1	4-19-74	Approval Expire	u No. 104-HÖZI s March 31, 1956
Z. REPO	RTING ACTIVIT	Y (Enter complete na	ne and destinati	on shipping add			G PERIOD (Month	and year,
	ckwell Int ace Divisi	ernational -	To be use White San			1974	JREMENT (Tons, 16.	1977
12	214 Lakewo	ood Blvd.	•		1	bottles, gallins,	Pounds	s., cubic jeet,
5. STOC	K NO. AND NOM	F. 90241	М	6. METHOD O	F SHIPME	NT 7. STORA	GE AVAILABILITY	AT DESTINATION
		ydrazine (MMH	)	(Check both	ı, if applic Χ τευ	24,00	00 Pounds Sto	rage
	L-P-27404A							
8.	9.	10,	CONT	RACT NO., I	PROGRA	M, OR PROJEC	TITLE	
YÉAR	MONTH/ QUARTER	RCS Engine Testing by Sub-Contract	or					
	,	at White Sands						
1974	1	WILLOW BUILD						
	2		<del></del>					
	3				•	-		
	. 4				· 1.			
1975	1							
· <del></del> 2 · 2	2							
	3							
	4							
1976	1	233			·			
	2	233						
	3	233					····	
	4	233				<u> </u>		·
1977	1	932	· · ·			· 		
	2	932						
	3	932						
	4	26,028	•			· · ·		
1978	1	26,028						
	2	26,028						<del></del>
3	3	26,028						
100	4					-	ļ	
			ļ					1
			<del>                                     </del>	<u> </u>	· · · · · · · ·		<del> </del>	
			1 7 7	<del></del>	* * *			
*					. " "	*	<del>                                     </del>	
II, ME	THOD OF COMP	UTATION AND REMA	RKS					

METHOD OF COMPUTATION AND REMARKS

Requirements based on anticipated tests and review of historical records.

					<u>, , , , , , , , , , , , , , , , , , , </u>	
12. TYPED NAME OF PREPARING	OFFICER			SIGNATURE		
J. T. Lane, Supervisor,	Shuttle Lo	gistics	Management			
13. TYPED NAME AND ORGANIZA	TION OF APPROV	ING OFFICIA	L.	SIGNATURE		

	FORECAST	OF PROPELL		MENTS	4-19-74	D. Orași, de 15 (D. C.	au No. 104-R624 es March 31, 1966
2. REPO	RTING ACTIVIT	Y (Enter complete no	ame and destination	shipping address)	. AEPORTIN	G PERIOD (Monti	
	ckwell In	ternational	- To be used PIMD Fac.	at SD	FROM 1974	то	1977
	214 Lakewo	od Blvd	Site 1 A.F	Plant 12	4. UNIT OF MEAS	UREMENT (Tons, It	s. cubic feet
	wney, Cali			Calif. 93550			
5. STOC	K NO. AND NOM	ENCLATURE OF IT	EM 6.	METHOD OF SHIPE	MENT 7. STORA	GE AVAILABILITY	d Cubic Feet
Ni	trogen, Ga	seous		(Check both, if appl	licable)		
FS	N 9135-823	-8115		RAIL X TR	uck Unkn	Over	
	FC-SPEC-23				, Olimin	Owit	
8	9.	10.	CONTRA	CT NO., PROGR	AM, OR PROJE	CT TITLE	
		Orbiter	Orbiter				
YEAR	MONTH/ QUARTER	Major Assy	Final Assy				
	40/11/10/1	Activation	Activation				
		ļ		,	·		
		Palmdale	Palmdale				
1974	<u>1</u> .		69,000				,
	2.		111,000				
	. 3	69,000	138,000				
	4	97,000	138,000				
1975	1	138,000	138,000				
	2		138,000				
,	3		111,000	<u> </u>			,
	44		111,000				
1976	1		111,000			-	
*	2		111,000	,			
	3		69,000				
	4		-27				-
1977	1			<u> </u>			
	2						
	3						
	<u> </u>						
1978	l			<del> </del>			
	2	<u> </u>	·				
	3		<u> </u>			<u> </u>	
				<u> </u>			
			<u> </u>	·			
	· · · · · · · · · · · · · · · · · · ·						
				<u> </u>			
				<del>                                     </del>			
			<del> </del>				
					<u> </u>		
						:	
11. MET	HOD OF COME!!	TATION AND REMA	0.45	1	J <u> </u>	<u> </u>	

Requirements based on anticipated production operations, testing activation of facilities and equipment to support the Orbiter Production Operations schedules.

			•	
12. TYPED NAME OF PREPARIN	G OFFICER		SIGNATURE	
J. T. Lane, Supervisor	, Shuttle Lo	gistics Manageme	ent .	
13. TYPED NAME AND ORGANIZ	ATION OF APPROV	ING OFFICIAL	SIGNATURE	

	4.00	(See instructions of			1. DATE PREPA 4-19-74	nunet nue	au No. 194-R624 · · · · · · · · · · · · · · · · · · ·
2. REPO	RTING ACTIVIT	Y (Enter complete n	ume and destination	vhipping address)	3. REPORTU	NG PERIOD (Mont	and year.
		ernational -			FROM	TO	
	ace Divisio		MAC/DAC		1974		1977
12	214 Lakewoo	od Blvd.			4. UNIT OF MEA	SUREMENT (Tons. IL	s., cubic feet,
Dc	wney Cali	f. 90241	St. Louis,	Мо.	pottles, vallon	s. cic.) Standar	d Cubic Feet
5. STOC	K NO. AND NOM	ENCLATURE OF IT		METHOD OF SHIP	MENT 7, STOR	AGE AVAILABILITY	AT DESTINATION
Ni	trogen, Gas	seous		(Check both, if app	licable)		
	N 9135-823			X RAIL X TR	ock Unkno	nwo	
	L-P-24701						
8.	9.	10.	CONTRA	CT NO., PROGR	RAM, OR PROJE	CT. TITLE	-
		RCS Engine			-		
YEAR	WCMTH/ QUARTER	& Pod Sub-					
*		Contractor					
	,						
3.001							
1974	<u> </u>						1.11
ļ	2	3,500					
,	3	3,500					
•	4	3,500					
1975	1	4,900		, .			
	2	4,900					
	3	4,900					
	4	8,400					
1976	l	8,400			1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		
- 1	2	11,000					
	3	11,000					
	4	9,100					
1977	1	9,100					
	2				ļ		
· }	3			`			
	4	· · · · · · · · · · · · · · · · · · ·					
1978	1				<u> </u>		
}	2		· · · · · · · · · · · · · · · · · · ·				
•							
}					· · · · · · · · · · · · · · · · · · ·		
. }	<u> </u>		· · · · · · · · · · · · · · · · · · ·	<u> </u>			
	<del></del>		<del>-</del>				
1							<u> </u>
1	* *						
ł			1				
•				<del> </del>			
11. MET	HOD OF COMPUT	TATION AND REMA	** *			<u> </u>	<u> </u>

12. TYPED NAME OF PREPARING OFFICER	SIGNATURE
J. T. Lane, Supervisor, Shuttle Logistics Management	
13. TYPED NAME AND ORGANIZATION OF APPROVING OFFICIAL	SIGNATURE

		OF PROPELL. (See Instructions of	n reverse.)			1. DATE		name, ne	au No. 104-R024 es March 33, 1966
		Y (Enter complete no	ime and destinat	ion shipping ac	ldres0)	3. REF	CRT:NO	PERIOD (Month	
	ckwell Inte ace Divisio				•	FROM	74	ТО	1977
	214 Lakewoo					4. UNIT	OF MEASU	REMENT (Tons, It	a sala fast
Do	wney Calif	90241		·		pottles	, gallons,	etc./ Standard	l Cubic Feet
		ENGLATURE OF IT	EM	6. METHOD (Check bo	OF SHIP	MENT . 7.			AT DESTINATION
	trogen, Gas		•	XRAIL			TT:::2		
	L-P-24701, EC-SPEC-23 <sup>1</sup>			LAJRAIL	AT X	RUCK	Unknov	vn	
8.	9,	10.	CONT	RACT NO.,	PROGE	RAM. OR I	PROJEC	TTITLE	
		External	Orbiter			γ · · · · ·	1		
YEAR	MONTH/ Quarter	Tank	Cavity						•
		Testing	Purge	ľ		•		•	*
1974	1	1.0			<del>'</del>	· ·			
	2 *					ļ			
	3		·				<del></del>		
	4		-						<u> </u>
1975	11	26,000	85,000						
	22	26,000	85,000						
	3	26,000	85,000						
1076	<del>4</del>	26,000	85,000						
1976	2	26,000 26,000	85,000 85,000	<del> </del>					<del></del>
	7	26,000	85,000	<del></del>	· ·····	<del> </del>	<u> </u>		
	<u> </u>	26,000	85,000		:			<del></del>	
1977	11	26,000	85,000		<del></del>	ļ	—— <del></del>		
	3		•						
	4		<u> </u>			· .			
1978	2			<del></del> -	· · · · · · · · · · · · · · · · · · ·		·		
	2			<del></del>		<u> </u>			-
	L L					<del> </del>			
				· · · · · · · · · · · · · · · · · · ·		ļ ———		······································	
	· · · · · · · · · · · · · · · · · · ·						- 1-		, .
					-				<del></del>
			·	<del>-  </del>	·				
			<u> </u>						
						<del> </del>			<u> </u>
						<del></del>			
11. MET	HOD OF COMPUT	ATION AND REMAR	RKS	——·I	···	·	·····		

12. TYPED NAME OF PREPARING OFFICER	SIGNATURE	
J. T. Lane, Supervisor, Shuttle Logistics Management		(C)
13. TYPED NAME AND ORGANIZATION OF APPROVING OFFICIAL	SIGNATURE	

	FORECAST (	OF PROPELLA	ANT REQUIRE	MENTS	1. DATE PREPAR	ED Bulge: Bure	au No. 104-R624
		(See instructions of			4-19-74		es March 31, 1966
		V (Enter complete na			3. REPORTIN	G PERIOD (Monte	and year/
		national - T			FROM	то	1077
	ce Division		eech Aircra		1974	<u> </u>	1977
	l4 Iakewood		oulder, Col	orado 80302	4. UNIT OF MEAS	UREMENT (Tons, It	s., cubic feet,
	ney, Calif.					Standard	Cubic Feet
		NCLATURE OF ITE	E <b>M</b> 6.	METHOD OF SHIPM (Check both, if appl		GE AVAILABILITY	AT DESTINATION
	rogen, Gase						
MSTY	-P-24701, T C-SPEC-234A	Уре т		X RAIL X TR	uck Unkr	iown	
8.	9.	10.	CONTRA	CT NO., PROGR	AM, OR PROJE	TITLE	
		Elec. Pwr					
YEAR	MONTH/ QUARTER	Generator	* · *		•		
	, worker bit	Cryogenic					
·		Tank Sub-		ļ,			- 1 
		Contractor					
1974	1						
	2	1,560,000	T				
	3	1,560,000					· · · · · · · · · · · · · · · · · · ·
1055	4	1,560,000				·	
1975	11	2,663,000		<u> </u>			
	. 2	2,663,000				·	
	<u> </u>	2,663,000					
1076	- 4	2,663,000					
1976	2	938,000		1			
	2	938,000					
	<u> </u>	938,000 938,000				<u> </u>	
1977	7	1,242,000		<del> </del>	· · ·		
1711	- 2	1,242,000					
	· ~						
•	4	·				-	
1978	·	•			1 1 1 1		
	2						· · · · · · · · · · · · · · · · · · ·
	3						
	<u> </u>						
	<del></del>				,		
					· · · · · · · · · · · · · · · · · · ·		
				ļ			
٠.	· · · · · · · · · · · · · · · · · · ·						
			F	<del> </del>			
			<del>                                     </del>				
11. MET	HOD OF COMPUT	TATION AND REMAI	RKS	1	<u> </u>		

12	. TYPED NAM	IE OF PREPARING	OFFICER			SIGNATURE	<u> </u>	
J.	T. Lane,	Supervisor,	Shuttle	Logistics	Management		. (	<u> </u>
. 13,	TYPED NAM	E AND ORGANIZA	TION OF APP	ROVING OFFICE	AL.	SIGNATURE		V 12.5

		OF PROPELL (See instructions of	n reverse.)		1. DATE PREPA 4-19-74	Dunker Dure	rau No. 194-R623 res March 31, 1966
Roc! Spa		national - T A			1974	S PERIOD (Mon:	n and year,
	14 lakewood ne <u>y, Calif</u> .	oosii a	a amamanta	0-746 05022	: 4. UNIT OF MEA	SUREMENT (Tons, II	s., cubic feet,
5. STO	CK NO. AND NOM	ENCLATURE OF IT	em acramento,	Calif. 95813	MENT 7 STOR	Standard	Cubic Feet
Nit:	rogen, Gase -P-24701, T C-SPEC-234-	ous 'ype l	· · · · · · · · · · · · · · · · · · ·	(Check both, if ap)	Ruck Unk	igë avallability	AT DESTINATION
e.	9.	10.	CONT	RACT NO., PROG	RAM OR PROJE	CT 7:7: F	
	ļ·	OMS	}		, OK PROJE	T TILE	
YEAR	MONTH/ QUARTER	Engine/Pod Sub-					
•		Contractor	·				
1974	1		7		<del> </del>	<u> </u>	
	2	2,400,000					
· .	3	2,691,000			<u> </u>		
	14	2,097,000			†		
1975	<u> </u>	2,400,000					
	2	2,691,000					
	3	2,097,000					
	. 4	4,194,000					· · · · · · · · · · · · · · · · · · ·
1976	1	4,788,000					
	2	5,492,000	<del>,</del>				
	3	7,493,000			<u> </u>		
1000	4	5,989,000					
1977	2	5,092,000		·	<u> </u>		
	2						
			· · · · · · · · · · · · · · · · · · ·		<del>  .                                     </del>		
1978	1				<del> </del>		
-210	2						
	3						
	·						
					<u> </u>	,	
		<u> </u>	<del> </del>				
	· · ·	·	<u> </u>				
				_			
11. MET	HOD OF COMPUT	TATION AND REMAR	RK5		J		

12. TYPED NAME OF PREPARING OFFICER	· · · · · · · · · · · · · · · · · · ·
The state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the s	SIGNATURE
J. T. Lane, Supervisor, Shuttle Logistics Management	OJ. TO
13. TYPED NAME AND ORGANIZATION OF APPROVING OFFICIAL	SIGNATURE
NASA FORM 1057 APP 64	

	FORECAST (	OF PROPELL		REMENTS	1	. DATE PREPAR 4-19-74		iu No. 104-R624 ns March 31, 1966
Roc Spa	kwell Inte ce Division	<i>(Enter complete no</i> rnational - ! n		lat		1974	G PERIOD (Month	1977
	214 Lakewood mey, Calif		Test Facil	ity	4	. Unit Of MEAS oottles, gallons	UREMENT (Tons, lb	s., cubic feet,
5. STOC		NCLATURE OF IT	EM	6. METHOD O (Check both	F SHIPME , if applic	NT 7. STORA	GE AVAILABILITY	AT DESTINATION
FSN	7 9135-854-0 TC Spec 2344	0493		RAIL	X TRUC	ck Unkno	wn	
6.	u Spec 234/	10,	CONT	RACT NO F	PROGRA	M, OR PROJEC	TITLE	<b>-</b>
	78 <del>0</del> 90-7-14/	MPTA						
YEAR	QUARTER							
•			,					
1974	1			-				<u> </u>
->	2							
	4							
1975	<u>1</u>	,						
ż	. 3							
1076	4					· · · · · · · · · · · · · · · · · · ·		
1976	2							×4
	3	3,200						
1022	<u>1</u> 4 · · ·	2,802						
1977	2							
	3	:						
1978	1 1							
	2 +							
	3							
		S					-	
					, .	<u> </u>		
						<del> </del>		
					- 1 1		-	
		* 1						
11. ME1	HOD OF COMPU	TATION AND REMA	RKS					

•							** *	
12. T	YPED NAME OF PREPARING	OFFICER	, , , , , , , , , , , ,		SIGNATURE	•		
J. T.	Lane, Supervisor,	Shuttle	Logistics	Management		( , ,		-
	YPED HAME AND ORGANIZAT				SIGNATURE			-: · · · · · · · · · · · · · · · · · · ·
·						<u> </u>		

	FORECAST (	OF PROPELL		REMENTS		1. DATE PREPAR 4-19-74	number nue	au No. 104-R624 es March 31, 1966
Roc		Y (Enter complete no rnational =		l at	ddress;	REFORT:N	G PERIOD (Monte	
Dov	214 Lakewoo wney Calif	d Blvd. . 90241 ENCLATURE OF IT				bottles, gallon	TORS	
Nii FSI	trogen, Liq N 9135-854- FC-SPEC-234	u <b>id</b> 0493	E M	6. METHOD (Check be X RAIL	OF SHIPM oth, if appl. X TRI	icable)	GE AVAILABILITY	AT DESTINATION
8.	9.	10.	CONT	RACT NO.	PROGR	AM, OR PROJE	CT TITLE	· · · · · · · · · · · · · · · · · · ·
YEAR	MCHTH/ Quarter	Elec. Pwr. Generation Cryogenic						
3.01		Tank Sub- Contractor						
1974	2 3 h	90 90			4			
1975	1 2 3	91 153 153 154	-					
1976	1 2	15 <b>5</b> 55 54						
1977	3 4 1 2	54 54 72			,	-		
•	3 4		-					
1978	2							
	3							
•								
11 457	WOD OF COURT	TATION AND DEMA						

12. TYPED NAME OF PREPARING OFF	CER		SIGNATURE		
J. T. Lane, Supervisor, Sh	uttle Logistics	Management		THE SE	-
13. TYPED NAME AND ORGANIZATION	OF APPROVING OFFIC	IAL	SIGNATURE		

-	FORECAST (	OF PROPELLA		EMENTS	4-19-74	is may extra be ex	iu No. 104-R624 es March 31, 1966		
Roc Spa 122 Dov	REPORTING ACTIVITY (Enter complete name and destination shipping address)  Rockwell International - To be used at  Space Division Component Suppliers  12214 Lakewood Blvd. Facility  Downey Calif. 90241 To be determined  5. STOCK NO. AND NOMENCLATURE OF ITEM 6. METHOD OF SHIP					3. REPORTING PERIOD (Month and year) FROM TO 1974 1977 4. UNIT OF MEASUREMENT (Tons, lbs., cubic feet, oottles, gallons, stc.) Tons			
5. STOCK NO. AND NOMENCLATURE OF ITEM Nitrogen, Liquid FSN 9135-854-0493 MSFC-SPEC-234A  6. METHOD OF SHIPMENT 7. STORAGE AVAILABILITY AT DESTINATIO (Check both, if applicable) TRUCK Unknown									
8.	9.	10.	CONTR	ACT NO., PROGR	RAM, OR PROJEC	CT TITLE	·		
YEAR	MCNT+I/ QUARTER	Component Suppliers To MSC Test	er er er er						
1974	1 2 3	1							
1975	ji 2	1 100 50							
1976	3 4 1	50 100 100							
1977	- 3 4	3,200							
	2 - 3 1 <sub>4</sub>								
1978	1 2 3								
	Ĭ		<u></u>						
-									

11. METHOD OF COMPUTATION AND REMARKS

12	. TYPED NAME OF PREP	ARING OFFICER			SIGNATURE		
J.	T. Lane, Supervi	sor, Shuttle	Logistics	Management		1 LEE	)
13	. TYPED NAME AND ORG	ANIZATION OF APP	ROVING OFFICE	AL .	SIGNATURE		

<u></u>		OF PROPELL	in reverse.)	• .			TE PREPA 19-74	to was as to the	reau No. 104-R624 pires March 31, 1966	
2. REP	DATING ACTIVIT	Y (Enter complete n	ame and destina	ion shi	oping address)	3, F.	EPORTH	NG PERIOD /Ma		
Roc	kwell Inte	rnational - '				FROM		то	The state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the s	
	ace Divisio		Component	Supp	pliers	:	1974		1977	
	•		Facility			4. UN	T OF MEA	SUREMENT (Tons.	lbs., cubic feet,	
Dow	mey, Calif	<u>. 90241                                     </u>	<u>To be dete</u>			soules, callons, cic.) Standard Cubic Feet				
		ENCLATURE OF IT	EM	6. ME	THOD OF SHIP heck both, if app		7. STOR	AGE AVAILABILIT	Y AT DESTINATION	
Nit	rogen, Com 1 9135-854-	mercial	•	l .						
464. TTM	1 9±35=054=	0493		LXI	RAIL X T	Ruck Unknown				
8. M.I.I	7-P-27401	10.	CONT				. ,		·	
	]	Component	CONT	RACT	NO., PROG	RAM, O	R PROJE	CTTITLE		
YEAR	MONTH/	Testing		- 1	•	}				
	QUARTER	Tescriff								
!						1				
	,									
1974	1				<del></del>	1	<del></del>	<del> </del>	<del></del>	
	2			:   -	<del></del>	<del> </del>				
,	3					ļ				
	44	20,700				<del>                                     </del>		T .	<del> </del>	
1975	1	20,700				1		<del> </del>		
·	22	20,700								
	3	20,700							<del> </del>	
		20,700							<u> </u>	
1976	1	20,700	<u> </u>							
	2	20,700	· · · · · · · · · · · · · · · · · · ·							
٠.	<del>- 3</del>	20,700	· · · · · · · · · · · · · · · · · · ·		· · · · · · · · · · · · · · · · · · ·	<u> </u>				
3000	4		·			ļ				
1977			<del></del>			ļ				
	2	·	· · · · · · · · · · · · · · · · · · ·	-		·	<del></del>	<u> </u>		
	3	<u> </u>		<del></del>			<del></del>			
1978	1			$-\vdash$		<del>                                     </del>			·	
1710	2					<del> </del>			<del> </del>	
	. 3				· ·	<del> </del>			<del>                                     </del>	
ĺ	<u>J</u>	·			<del></del>	<del>                                     </del>			<del>                                     </del>	
			,	<u> </u>		<del> </del>		<del></del> -	<u> </u>	
						<del> </del>		<del></del>	<u> </u>	
	· · · · · · · · · · · · · · · · · · ·								†	
	· · · · · · · · · · · · · · · · · · ·					1.			<del>                                     </del>	
									<u> </u>	
		·							7, 7 2	
	· · · · · · · · · · · · · · · · · · ·			_			•			
11. NFT	HOD OF COURTS	TATION AND REMA		$_{\perp}$						
	COMPU	AND REMA	47/5		•	25.00				

	The state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the s	
12. TYPED NAME OF PREPARING OFFICER	SIGNATURE	
J. T. Lane, Supervisor, Shuttle Logistics Management		To see
13. TYPED NAME AND ORGANIZATION OF APPROVING OFFICIAL	SIGNATURE	
MACA COOK TOP	<del></del>	

· · ·		OF PROPELLA	n reverse.)		1. DATE PREFAR 4-19-74	as parties as the co	au No. 104-RG24 es March 31, 1966
Rock Spac 1221 Down	well Interne Division 4 Lakewood ev. Calif	Blvd. Fa	be used a ssissippi cility	t Test	1974 4. UNIT OF MEAS bottles, callons	G PERIOD (Mont)  TO  UREMENT (Tons, 1b), 21c. J.  Tons	1977
Nitr FSN MTL-	ogen, Commo 9135-854-0 P-27401	ercial	-	6. METHOD OF SHIPM (Check both, if appl    X RAIL   X TR	uck Unkn		AT DESTINATION
· 8.	9.	10.	CONTR	RACT NO., PROGR	AM, OR PROJE	CT TITLE	-
YEAR	WCMSTH/ QUARTER	MPTA Test					
1974	1						
1000	3 4						
1975	<u>1</u> 2						
1976	1 2						
1977	3 4 2	9.5 9.5	,		i. 3		
1978	3 4						
1910	2 3					Y	
	4						
					1		
- :							
11. MET	HOD OF COMPU	TATION AND REMAI	RKS				

12. TYPED NAME OF PREPARING OFFICER	SIGNATURE
J. T. Lane, Supervisor, Shuttle Logistics Management	- I Com
13. TYPED NAME AND ORGANIZATION OF APPROVING OFFICIAL	SIGNATURE

		OF PROPELL (See Instructions of	n tevetse.)		1. DATE 4-19	PREPARED:	Budget Bure Approval Expi	au No. 164-HG24 res March 31, 1966
Roc	RTING ACTIVIT	y (Enter complete no national	ome and destinat	tion shipping address)	3. REF	CRTING P		
	ce Division 14 Lakewood				A. HART	)74	ACAIT (T	1977
Dow	ney, Calif.		e M	Te herman sea	ootile:	s, gallons, etc.	Tons	
	rogen, Comm 9135-854-0		E.M	6. METHOD OF SHI (Check both, if ap	plicable)		VAILABILITY	AT DESTINATION
MIL	-P-27401				TRUCK	Unknown		
8.	9,	10.	CONT	RACT NO., PROG	RAM, OR	PROJECT T	ITLE	
YEAR	NONTH/ QUARTER	Component Suppliers						
1974	1					<del>.</del>		
	3							
1975	4 1	1		1				
	2	1						
1976	<u>4</u>	1						
	2	1						
1977	1							
	2							
1978	4							
	2							
	4						-	
11, MF7	HOD OF COMPUS	ATION AND REMAI						

12. TYPED NAME OF PREPARING OFFICER	7
J. T. Lane, Supervisor, Shuttle Logistics Management	SIGNATURE
13. TYPED NAME AND ORGANIZATION OF APPROVING OFFICIAL	SIGNATURE
NASA FORM 1057 APO 54	<del></del>

		OF PROPELL	reverse.	1. DATE PREPARED Budge: Bureau No. 194-R624 4-19-74 Approval Expires March 11, 1956			
	ekwell Inte		me and destinati	on shipping address)	3. REPORTIN	G PERIOD (Month	and years
	ace Divisio		1974		1977		
	214 Lakewoo				4. UNIT OF MEAS	UREMENT (Tons, 16	s., cubic feet,
Dov	vney, Calif	. 90241			oottles, gallons		
		ENCLATURE OF IT	EM	6. METHOD OF SHIP (Check both, if app	MENT 7. STORA	GE AVAILABILITY	(1) 13,000 %
NIT TEST	trogen Liq N 9135-965-	u1a 2526		X RAIL X TE	Col To	o Gal. Tank,	(1) 13,000 O Gal. Tanks
	FC-SPEC-234			با بقی محمد نظ	(2) 26.	000 Gal. Tan	ks
8.	9.	10.	CONT	RACT NO., PROGE			· •
		Orbiter	L&T				
YEAR	· MONTH/ QUARTER	Major Assy	Developm	en <b>t</b>			
		& Test					
		B/290					
7 026	<u> </u>	Downey	Downey				
1974	1	168	426	<del>-  </del>	ļ		
	3	168	2,216			·	
	<u>1</u>	168	2,316				· · · · · · · · · · · · · · · · · · ·
1975	.1	168	2,316				manufacture & History and an analysis and a second
エントシ	2	168	2,316				
	3	168	2,356				
*	14	168	2,306				
1976	1.	168	2,386		7 .		
	2	168	2,386				
	3	168	2,386				
-	4	168	2,386				<u> </u>
1977	<u> </u>	168	2,386	<u> </u>			
	22						
	<del>3</del>					:	
	<u></u>		·				
1978	<del> </del>	,		<del></del>			
	2 3						
	]	· · · · · · · · · · · · · · · · · · ·		<del></del>		·	
	· "	, ,					
•							
		•					
·. · · . •							
	l				1		

11. METHOD OF COMPUTATION AND REMARKS

Requirements based on anticipated tests and review of historical records; production operations build-flow plans and schedules of Orbiter tests and production.

					·		
12. TYPED NAME OF	PREPARING OFFIC	ER	;	SIGNATURE	. 0		: 1
J. T. Lane, Supe	ervisor, Shu	ttle Logistics	Management		1, 15		-
13. TYPED NAME AND	ORGANIZATION O	F APPROVING OFFIC	IAL	SIGNATURE .			
			Jan Barrier			医毛柱外外	

	•	OF PROPELL. (See instructions of	n reverse, j	VEWEL 11	4-19-74	Approval Expu	au No. 104-R024 es March 31, 1966
ROC	ORTING ACTIVIT	Y (Enter complete no rnational = !	me and destination	on shipping address;			and year,
	ce Divisio			1500 Ave. M	FROM 1974	TO	1977
	214 Lakewoo	d Blvd.	Site l, A.I	F. Plant 42	4. UNIT OF MEA	SUREMENT (Tons, IL	• • •
Dov	mey, Calif	. 90241 1	Palmdale, (	Ca. 93550	bottles, gallon		
	rogen, Liq		EM	6. METHOD OF SHIP (Check both, if app	MENT 7. STOR! licable)	GE AVAILABILITY	AT DESTINATION
FSN	1 9135-965-	2526		RAIL X TE	ock Unkn	own	
MSI	C-SPEC-234	A					
B	9.	10.	CONT	RACT NO., PROGE	RAM, OR PROJE	CTTITLE	· 'es- '
YEAR	MONTH/ QUARTER	Orbiter Ass & C/O					
	,						
		Palmdale				:	
1974	1						
•	3		<u> </u>				
4	14			·			<u> </u>
1975 .	1	90				<del> </del>	
-	2	90					
	3	1.00					
1976	44	100 140					
T310	2	140		···			
-	3	110					
•	<u>4</u>	110					
1977	1						
٠.	2		<u> </u>				
_	1,						
1978	1			•, , ,			
	2						
	3				· · · · · · · · · · · · · · · · · · ·		
	4						
		· · · · · · · · · · · · · · · · · · ·				ļ	
						<del></del>	
•							
•							
11. MET	HOD OF COMPU	TATION AND REMA	RKS		<del></del>		
						• .	

Requirements are based on production operations build-flow plans and schedules of Orbiter production & Test.

12. TYPED NAME OF PREPARING			SIGNATURE		
J. T. Lane, Supervisor,	Shuttle Logistics	Management			
13. TYPED NAME AND ORGANIZAT	ION OF APPROVING OFFICE	A.L.	SIGNATURE	<del></del>	
NASA FORM 1057 APP CA					<del> </del>

			, , , ,		· · · · · · · · · · · · · · · · · · ·	<u> </u>			· · · · · · · · · · · · · · · · · · ·
	FORECAST (	OF PROPELL. (See instructions of		REM	ENTS	11. DATE PREPARED Budges Bureau No. 104-R014 4-19-74 Approval Expires March 11, 1966			
2. REPO	RTING ACTIVIT	Y (Enter complete no	ime and destinat	ion sh	pping address)	3 RE	PORTIN	G PERIOD (Mont	h and years
Roc	kwell Inte	rnational - !	To be used	lat	SD	FROM		ТО	-
Spa	Space Division PLMD Fac.				OO Ave. M	: 19	974		1977
122	214 Lakewood		Site l, A.			4. UNIT	OF MEAS	UREMENT (Tons, I	bs., cubic feet.
Dow	mey, Calif	. 90241	Palmdale,	Ca.	93550	oottle	s, callons	s, etc.)	
5. STOC	K NO. AND NOME	NCLATURE OF IT	EM	6. м	ETHOO OF SHIP		7. STORA	GE AVAILABILITY	AT DESTINATION
Oxy	rgen, Gaseo	us		(4	Sheck both; if app	licable)	K-Cyl	inders	
FSN	1 9135-965-2	2527 Grade A		X	RAIL X TE	RUCK			
MSI	C-SPEC-399	A	<u> </u>			1	. :	•	
8.	9.	.10,	CONT	RAC	T NO., PROGE	RAM, OR	PROJE	CT TITLE	
		Final Assy		- [					
YEAR	WOTH Quarter	& Orbiter							
		Checkout					•		
					•				
7.051		Palmdale		$\perp$	1.		:		
1974	Ţ.			L				1, 1	
	2				·				
** .	3								
	4	· · · · · · · · · · · · · · · · · · ·				ļ			
1975	1	3.000	\ 		· .	<u> </u>	<del></del> -		
	5	3,000			· .	ļ	-	· 	
	3	5,000				<u> </u>	* .		
1000	4	5,000			<del></del>	ļ	:		
1976		10,000				ļ	<del></del>	ļ	
	2	10,000				<del> </del>	<u> </u>		·
	3	10,000	·		·	<del> </del>			
1077		10,000			<del></del>	<del> </del>			
1977	_ α		<del></del>	-+		-			
	. 2	-	·		<del></del>	<del> </del>	<del></del>		
	);			-		<del> </del>			
1978	7				-		•		-
1910	2				•	1.	•		
	.3	11							7
. •									.1
							· · · · ·		
		,							
				$\Box \Box$					
				L					
				_			:		
II. MET	HOD OF COMPUT	ATION AND REMAI	RKS						

Requirements based on production operations involving the oxygen system during final assy, and checkout. Ground test requirements based on EPS operations for fuel cell checkout per production operations schedules.

	· · · · · · · · · · · · · · · · · · ·		<u></u> '				
12.	TYPED NAME OF PREPARING	OFFICER	,,		SIGNATURE		
J . T	Lane, Supervisor,	Shuttle	Logistics	Management		, , , ~	
13.	TYPED NAME AND ORGANIZAT	TION OF APP	ROVING OFFICIA	NL:	SIGNATURE		
					· · · · · ·		 -

·		OF PROPELLA	n teverse.)	* *		11. DATE 6		O Myet is	ureau No. 104-R624 spires March 17, 1964
Z. REP	orting activit	Y (Enter complete no rnational -	me and destinat	ioa shipp 1 at:	ing address).	3. REP	GŖŢ:N	G PERIOD /M	onth and year,
Sp	ace Di <b>visio</b>	n	Beech Air			19	74	το	1977
	214 Lakewoo wney, Calif		Boulder,	Color	ado 8030	4. UNIT O	F MEAS gallons	GREMENT (Tons	ths., cubic feet, rd Cubic Feet
5. STO	K NO. AND NOME	ENCLATURE OF IT		6. MET	HOD OF SHIP	MFNT 7	SYDDA	CE AMAL ABILL	TY AT DESTINATION
Ox MS	ygen, Gaseo FC-SPEC-349	ous A		(Che	ck both, if app AIL X TI	licuble) K	-Cyli	nders	
MS	FC-SPEC-399	)A		"	٠٠٠ ــــــ ٠٠٠	1001			
8.	9.	10.	CONT	RACT	NO., PROGI	RAM, OR F	ROJE	T TITLE	8
		Elec. Pwr.				1.			
YEAR	QUARTER	Generation			***				
		Cryogenic							
	i	Tank Sub-							
70%	·	Contractor	<u> </u>		· · ·	<u> </u>			
1974	<u> </u>				<u> </u>				
	2	14,000	· · · · · ·		·	<u> </u>			
	3	14,000		·		ļ			
1975	<del></del>	14,000			· · · · · · · · · · · · · · · · · · ·				
ユグリノ	5	24,000			,	<del> </del>			
•	3	24,000 24,000	<del></del>	- 1		<del> </del>			
	<u>,                                    </u>	24,000				<del> </del>			
1976	]	84,000			<del></del>	<del> </del>		·	
	2	84,000						· · · · · · · · · · · · · · · · · · ·	
	3	84,000		<del> </del>		<del>                                     </del>			
	Ĭ4	84,000		·		<u> </u>			
1977	11	11,000		· ·	<del></del>				
	2					1			
	3								
	14								
1978									
•	2				•				
	3.				<u>.</u> :	ļ		· · · · · · · · · · · · · · · · · · ·	· .
	<del> </del>					<u> </u>			
•					<del> </del>	ļ		<del> </del>	
				-		<u> </u>		<del></del>	
						<u> </u>			
				<del></del> -	<u> </u>	<del> </del>		· · · · · · · · · · · · · · · · · · ·	
				<del>-  </del> -	<del></del>	<del> </del>			
	-							·	
				<del> </del>				<u> </u>	
11. MET	HOD OF COMPUT	TATION AND REMA				<del></del>			. 1

12. TYPED NAME OF PREPARING OFFICER	SIGNATURE
J. T. Lane, Supervisor, Shuttle Logistics Management	
13. TYPED NAME AND ORGANIZATION OF APPROVING OFFICIAL	SIGNATURE

	FORECAST	OF PROPELL	ANT REQUI	REMENTS	11. DATE PREPAI 4-19-74		au No. 104-RO24 res March 31, 1966
Roc Sps 122 <u>Dov</u>	ekwell Inter ice Division 14 Lakewood mey, Calif	rnational - ' n   1 d Blvd. . 90241	Po be used Mississipp Facility		1974	NG PERIOD (Mon:	and year,
Oxy FSN	gen, Liquid 19135-965-2 1-P-25508	2527		6. METHOD OF SHIP (Check both, if app MRAIL X) TR	MENT 7. STORY licable)	ige avallability	AT DESTINATION
0.	9.	10.	CONT	RACT NO., PROGE	RAM, OR PROJE	CT TITLE	
YEAR	MONTH/ QUARTER	MPTA					
			,				
1974	2						
1975	1 2 3		\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \				
1976	1 2 3	3,030 3,030					
1977	1 2 3					1	
1978	1 2						
	3 						
						4	
11. MET		ATION AND REMAR	and the second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second s		<u> </u>		

12. TYPED NAME OF PREPARING OFFICER		SIGNATURE	
J. T. Lane, Supervisor, Shuttle	Logistics Management	1,1	
13. TYPED HAME AND ORGANIZATION OF APP	OVING OFFICIAL	SIGNATURE	-1
		the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the s	

	-	OF PROPELL	a reverse.)		11. DATE PRE	Approval Exp	eau No. 104-8624 ires Maris 31, 1956
Ro	ockwell Into ace Divisi	ry (Enter complete no ernational - .on	me and destination To be used Beech Aird	lat	3. REPOR FROM 1974	TING PERIOD (Mon	1977
Do	wney, Cali	od Blvd. f. 90241 ENCLATURE OF IT	Boulder, (	Colorado 8030	ootties, ga	MEASUREMENT (Tons, I llons, etc.) Tons	
Ox FS	ygen, Liqu	id -2527 Grade I		(Check both, if a	pplicable)	oragë availability iknown	AT DESTINATION
8.	9.	10,	CONT	RACT NO., PRO	SPAN OF PRO	VIECT TITLE	<del></del>
		Elec. Pwr.	}		JAM, OR PRO	73EC! 111LE .	
YEAR	NORTH/ QUARTER	Generation Cryogenic					
		Tank Sub-		•			
1974	<del></del>	Contractor					ļ <u>.</u>
エフトサ	2	<u> </u>					<u> </u>
	3	<del>-</del>			•		
	·	<del></del>				· · · · · · · · · · · · · · · · · · ·	ļ
2000	<u> 4</u>				<del></del>		
1975	<u> </u>			<u> </u>			
	2	28.5					
	3						
	44	64.5					
1976	11						
	2						
	. 3	20.8					
	4						
1977	ו			-			<del></del>
~/!!	2						<del> </del>
	2			<del> </del>	<u> </u>		<del> </del>
	1						<del></del>
1078			· · · · · · · · · · · · · · · · · · ·				<del> </del> -
1978							<u> </u>
	2	+		<del> </del>	-		<b></b>
	<del>- 3</del>						ļ
	4	<del> </del>		<u> </u>			<u> </u>
		<del></del>					<u></u>
	<del></del>					,	
-							
	-						
11. MET	HOD OF COMPU	TATION AND REMA	RKS				· · · · · · · · · · · · · · · · · · ·

		•				
12. TYPED HAME OF PREPARING OFFICER			SIGNATURE	·		
J. T. Lane, Supervisor, Shuttle	Logistics	Management		-	$\Rightarrow$	
13. TYPED HAME AND ORGANIZATION OF APPE	OVING OFFICIA	\L	SIGNATURE			
			,			
			<u> </u>			

	•						
	FORECAST (	OF PROPELL		MENTS	1. DATE PREPAR 4-19-74	in maker come	au No. 104-RG24 res March 31, 1966
2. REPO	PRTING ACTIVIT	Y (Enter complete no	me and destination	shipping address)	3. REPORTIN	G PERIOD (Monti	and year
Roc	kwell Inte	rnational -	To be used a	ıt	FROM	TO	
	ce Divisio		Pratt & Whit		1974		1977
	214 Lakewoo			00 Main St.	4. UNIT OF MEAS	UREMENT (Tons. II	s., cubic feet,
	vney, Calif		E. Hartford	Conn. 06108	oottles, callens	Tons	
\$. STOC	K NO. AND NOME	NCLATURE OF IT	EM 6.	METHOD OF SHIP		GE AVAILABILITY	AT DESTINATION
	gen, Liqui			(Check both, if app			
		2527 Grade A		X RAIL X TR	ock Unkn	OWM.	*
	C-SPEC-399				Olding	.0414	
8.	9.	10.	CONTRA	CT NO., PROGR	AM, OR PROJEC	TITLE	49
	,	Elec. Pwr.		1			
YEAR	HONTH/	Generation					
	QUARTER	Fuel Cell					
•		Pwr. Plant				, <del></del>	
		Sub-Contrac	ton			·	
1974	1	- mun-communac	WOI-				<u> </u>
	2	1,354					
	3	1.354					· · · · · · · · · · · · · · · · · · ·
	14	1,354					
1975	. 1	2,031					*********
-212.	2	2,031		<b></b>			<del></del>
	3	2,031	<del></del>	<b></b>			
	77	2,031					
1976	)	1,008					
±210	2	1.008				<del></del>	
	3	1,008		<u> </u>			
	)1	1,008					
1977		788					
エフリト	. 2	100					
	3						
	,						
1978	]	- y -1-					
1910	2					, ,	
	. 2						
•	<del></del>						
				<u> </u>			<del></del>
							1
	. ,						
÷							<u> </u>
	1.00		1				
				1			<u> </u>

11. METHOD OF COMPUTATION AND REMARKS

12. TYPED NAME OF PREPARING OFFICER		SIGNATURE	
J. T. Lane, Supervisor, Shuttle	Logistics Management	(, (	
13. TYPED NAME AND ORGANIZATION OF APPE	ROVING OFFICIAL	SIGNATURE	

	· · · · · ·	OF PROPELLA	reverse.)		1	1. DATE PREPAR 4-19-74	REO Budge: Bure Approval Expu	au No. 104-R624 és March 31, 1966
Roc Spa 122 Dow	kwell Inter ce Division 214 Lakewood mey, Calif	d Blvd. . 90241 - 8	lo be used Aerojet Co Sacramento	at rp. , Calif.	95813	1974 4. UNIT OF MEAS	G PERIOD (Mont) TO  OREMENT (Tons, It	1977
Tet FSN MII	roxide, Ni 19135-926-2 -P-26539C		<b>+</b>	6. METHOD (Check bo)	h, if appli	cable) CK Unide	ce avaitability	AT DESTINATION
8.	9.	10.	CONT	RACT NO.,	PROGR	AM, OR PROJE	CTTITLE	-
YEAR .	MORTH/ QUARTER	CMS Engine & Pod Sub- Contractor						
1974	7							
1914	1 2 3 4	42,100 48,500						
1975	1 2 3	37,100 44,200 48,000 38,800						
1976	1 <sub>4</sub>	74,400 87,300 98,700						
1977	1 2 3	132,700 107,900 87,900						
1978	1 2		`					
	1							
11. ME1	HOD OF COMPUT	TATION AND REMA	RKS	<del></del>			<u> </u>	<u> </u>

12. TYPED NAME OF PREPARING OFFICER		SIGNATURE		·
J. T. Lane, Supervisor, Shuttle	Logistics Management		Ca	
13. TYPED NAME AND ORGANIZATION OF APP	PROVING OFFICIAL	SIGNATURE		

	FORECAST (	OF PROPELL.		1. DATE PREPA 4-19-74	in this set in the	au No. 104-K624 es March 31, 1966	
				ion shipping address	, 3. REPORT	NG PERIOD (Monti	and year,
		rnational -		lat	FROM	то	3000
	ce Division		MAC/DAC		1974		1977
	214 Lakewoo				4. UNIT OF MEA	SUREMENT (Tons, It	is., cubic feet,
Dov	DOWNEY, Calli, 90241 St. Louis, Mo Pounds						
				6. METHOD OF SI (Check both, if	NPMENT 7. STOR	AGE AVAILABILITY	AT DESTINATION
TO I	1 9135-926-	trogen, N <sub>2</sub> 0	4.	X RAIL X	TRUCK Unkn	NT 774	
MTI	L-P-26539C	210).		الماليما ليما	Times   Ottkiii	JWII	
8.	9.	10.	CONT	RACT NO., PRO	GRAM, OR PROJE	CT TITLE	
		RCS Engine			·		
YEAR	MONTH/ QUARTER	& Pod Sub-					
	· QUARTER	Contractor					*
	,						
3.071							
1974	<u>1</u> 2	1 0					<u> </u>
	3	4,800	<del> </del>				
٠.	<u> </u>	4,800			·		
1975	ו	4,800	<u> </u>				· · · · · · · · · · · · · · · · · · ·
-212	2	6,500 6,500	-			. 77	
	3	6,500_			· · · · · · · · · · · · · · · · · · ·		
	<u> </u>	11,600					
1976	-1	11,600					
	2	15,000					
	- 3	15,000		<u> </u>			• :
	21	11,600					
1977	<del>- 1</del>	11,600				` ` `	
	5.				-		
·	<del></del>			· · · · · · · · · · · · · · · · · · ·		· · · · · · · · · · · · · · · · · · ·	
1978	7						
±) 0.	2						
•	7						
							· · · · · · · · · · · · · · · · · · ·
-	<u> </u>					-	
•							
· · · i					<u> </u>		
,							
11. MET	HOD OF COMPUT	TATION AND REMA	RKS				L

12	. TYPED NAM	E OF PREPARING	OFFICER			SIGNATURE		
J.	T. Lane,	Supervisor,	Shuttle	Logistics	Management.			
		E AND ORGANIZAT				SIGNATURE	 	
514			-	and the second				

<del></del> -	FORECAST OF PROPELLANT REQUIREMENTS (See instructions on reverse.)					1. DATE PREPARED Budges Bureau No. 104-H624 4-19-74 Approval Expires March 31, 1959		
Roel Spa	2. REPORTING ACTIVITY (Enter complete name and destination thipping address) Rockwell International Space Division					FROM 1974	G PERIOD (Monti	1977
Down	12214 Iakewood Blvd. Downey, Calif. 90241					oottles, gallons	Pounds	s., cubic feet,
5. STOC	K NO. AND NOM	ENCLATURE OF IT	EM	6.	METHOD OF SHIPM (Check both, if appl	MENT 7. STORA	GE AVAILABILITY	AT DESTINATION
Water, Coolant MSC-SPEC-C2OA				RAIL X TR		own		
8.	9.	10.	CONT	'RA	CT NO., PROGR	AM, OR PROJE	CT TITLE	, 6
YEAR	MONTH/ QUARTER	ECLSS Testing						
		Downey					· ·	•
1974	1						·	
	2 3							
1075	4		<del> </del>		·			
1975	2	300						
	3	<del>                                     </del>	-					
1976	1	300						
•	2							
• • •	3							
1977	1					·		
	2	<u> </u>						
	3	· · · · · · · · · · · · · · · · · · ·	,	-				· · · · · · · · · · · · · · · · · · ·
1978	1							
•	2	,	<u> </u>					
÷	3		ļ		·			
•				÷		<u>.</u>	<u> </u>	
			<del> </del>					
			<u> </u>				· · · · · · · · · · · · · · · · · · ·	
				-				
<del></del>			,					
11. ME	THOD OF COMPU	TATION AND REMA	RKS					

Requirements based on anticipated tests and historical data.

12. TYPED NAME OF PREPARING OFFICER	SIGNATURE
T m T	
J. T. Lane, Supervisor, Shuttle Logistics Management	
Diagotte Hogisties Management	
13. TYPED NAME AND ORGANIZATION OF APPROVING OFFICIAL	I SIGNATURE

		OF PROPELL	1. DATE PREPARED Bulge: Bureau No. 194-8624 4-19-74 Approval Expires Mar. 13. 1966						
	and the second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second s	TY (Enter complete	name and destina	tion s	hipping address)		NG PERIOD (Month and year)		
	kwell Inte			•		1974 1977			
ppa:	ce Divisio	n a Data							
	l4 Lakewoo nev, Calif					nottles, gallon	SUREMENT (Tons, lbs., cubic feet, s, etc.) Pounds		
5. STOC	K NO. AND NOW	SENCLATURE OF I	TEM	6.	METHOD OF SHIP		AGE AVAILABILITY AT DESTINATIO		
Wate	er Potabl	e			(Check both, if app	icable)			
NASA-SPEC-SD-W-0020					RAIL TR	uck Unknown			
<del></del>	-				'				
8.	9.	10.	CONT	RA	T NO., PRÓGR	AM, OR PROJE	CT TITLE .		
	**************************************	ECLSS							
YEAR	QUARTER	Testing							
		Dormari		.					
1974	1	Downey					<del>                                     </del>		
	2 .				· · · · · · · · · · · · · · · · · · ·		<del></del>		
Ī	3 .								
	4								
1975	<u>l</u>								
}	2	150							
}	3	150	<del> </del> -						
3000	4	150	<u> </u>						
1976		150	1 .						
		150							
	ь			• ;					
1977	1				· · · · · · · · · · · · · · · · · · ·				
	2		:			,			
	3								
	<u> </u>								
1978	1		·	·	<u> </u>				
	2 :								
·	3								
. [				•					
- 1									
					· <del></del>				
j			· · · · · · · · · · · · · · · · · · ·						
		<b> </b>					<u> </u>		
}	<del></del>								
II. MET	HOD OF COMPU	TATION AND REM	ARKS	1		· · · · · · · · · · · · · · · · · · ·			
		requirement		ori	cal records.				

			,	* ± · ±	
12. TYPED NAME OF PREPARING	V 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		SIGNATURE		_
J. T. Lane, Supervisor,	Shuttle Logistics	Management	- h	C	Zine -
. 13. TYPED, NAME AND ORGANIZAT			SIGNATURE		